MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2015/2016

MSD2013 – SOUND DESIGN 1

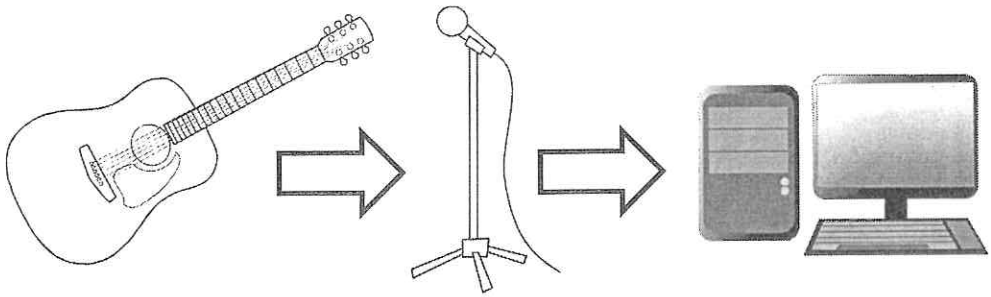
(All sections / Groups)

8 MARCH 2016
2.30 p.m - 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 9 pages with 5 questions only.
2. Answer **FOUR** out of **FIVE** questions. All questions have sub-questions and the distribution of the marks for each sub-question is given
3. Please write all your answers in the Answer Booklet provided.

Question 1



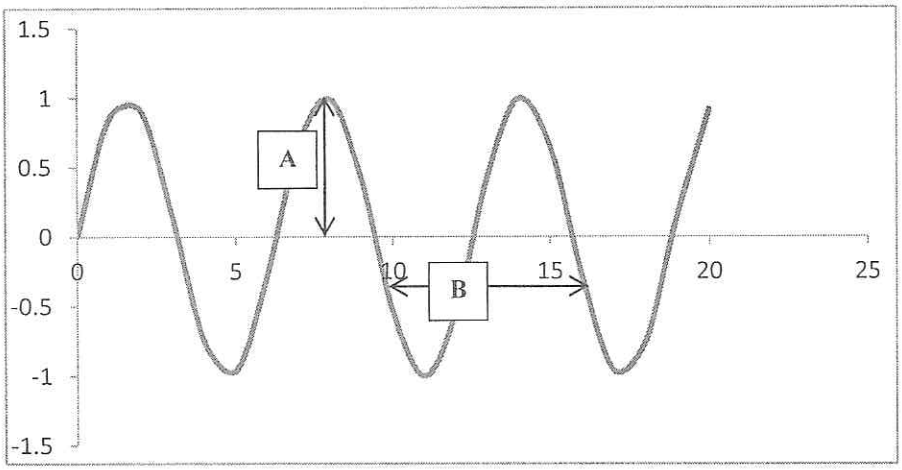
The above diagram is a basic setup for recording an acoustic guitar with a microphone and a computer.

The scenario: The strings were plucked and the audio is captured by the microphone. The audio is then recorded in the computer using COCKOS REAPER software. It is then rendered as a compressed audio file which is then transferred to a USB drive.

Based on the above diagram and the scenario answer the following questions:

a) Briefly explain **how sound travels** from the guitar to the microphone after its strings have been plucked. **[4 marks]**

b) The recorded audio is digitally shown in the diagram below. A and B are **properties of a simple sound wave**. Label A and B. **[2 marks]**



c) The guitar track was recorded using a setting of 48,000 Hz for the sample rate and 24-bit as the WAV bit depth. Briefly explain why it is important to record audio with a **higher bit-rate** in terms of audio resolution.

[2 marks]

Continued .....

d) The audio file that was rendered and transferred into a USB drive is a LOSSLESS digital audio format. List at least two (2) **lossless digital audio formats** that are commonly available today.

[2 marks]

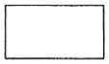
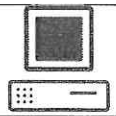
Continued .....

Question 2

Knowing the audio signal flow is absolutely critical to a sound engineer or sound producer's success. Using this information, the engineer or producer can quickly TROUBLESHOOT the likely causes of common problems, and can even narrow down the possibilities of unexpected major problems.

The Soundlab in 3009 is equipped with a *Behringer x32 digital console, Behringer B2-Pro condenser microphone, KRK ROKIT 8 studio monitor speakers* and a desktop PC. The digital console is also used as the audio interface for the recording system.

Schematic symbol:

Schematic Symbol	Equipment
	Behringer x32 digital console
	Behringer B2-Pro condenser microphone
	KRK ROKIT 8 studio monitor speakers
	Desktop PC

Based on the statement and diagram above answer the following questions:

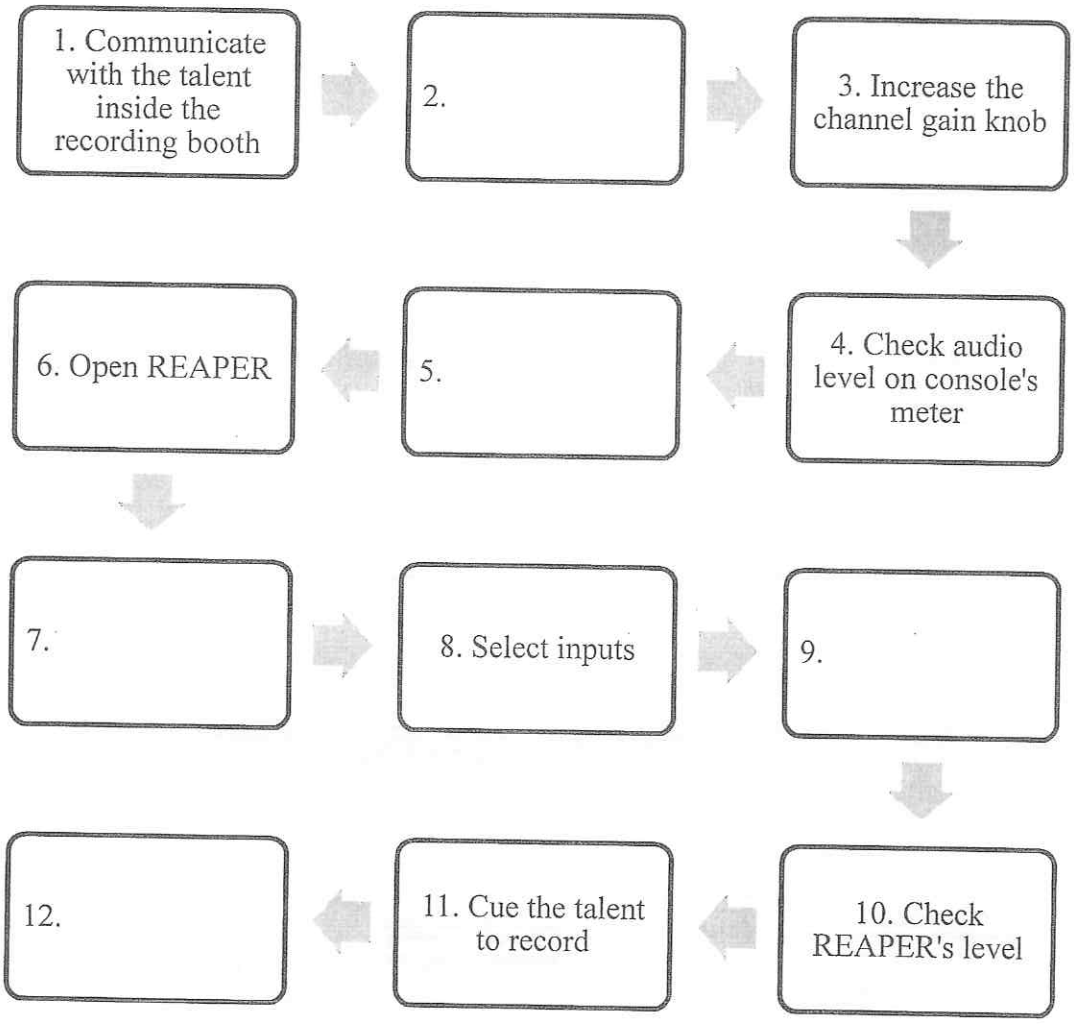
a) Using the schematic symbols above illustrate/draw and label **the audio signal flow** for the 3009 Soundlab starting from the microphone until the speakers.

[5 marks]

Continued .....

b) Fill in the empty boxes below to complete the **recording process flow** for the 3009 Soundlab.

[5 marks]



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Question 3

A Digital Audio Workstation (DAW) is an electronic system designed to record, edit and play back digital audio. A key feature of DAWs is the ability to freely manipulate recorded sounds. Many DAWs, especially computer-based DAWs, have MIDI recording, editing, and playback capabilities. Technically, a DAW is more than just the software running on your computer.

One of the main functions that are widely used in a DAW is the digital editing capability. The non-linear editing system is where it allows the retrieval, assembly and reassembly of disk-based audio file quickly and in any order, regardless of the material's location on the disk.

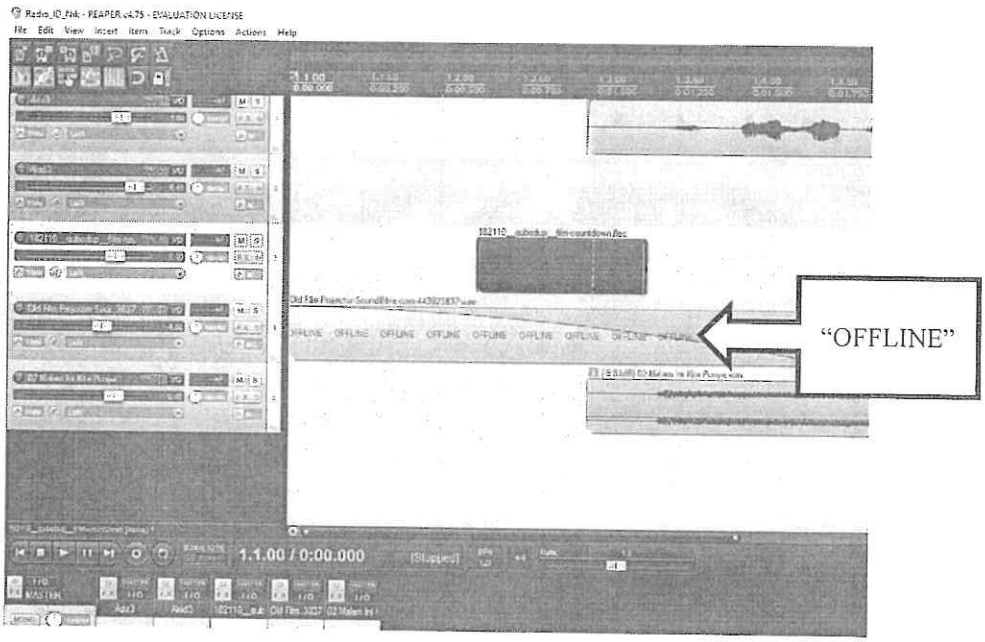
The following sets of questions are based on the digital audio workstation, COCKOS REAPER and digital editing.

a) List at least two (2) of the basic **HARDWARE** components for a DAW.

[2 marks]

b) Referring to the image below, briefly explain what does it mean when the media file in the REAPER timeline is showing the "**OFFLINE**" warning?

[2 marks]



Continued .....

c) Draw and label the **ADSR** segments for an audio envelope.

[4 marks]

d) List two (2) **considerations** when you are editing music.

[2 marks]

Continued .....

Question 4

Radio Dramatizations on radio entail creating sound to compel the listener to "see" mental images. The stimuli that triggers the imagination are words, sound effects, and music as well as the methods used to produce these elements. There are several miking techniques that can be use when simulating situations inside the recording booth.

With regards to Radio Dramatization production, answer the following sets of questions.

a) List two (2) **differences** between Radio Drama and TV Drama.

[2 marks]

b) Briefly explain what is **Aural Signposting** in a Radio Drama production?

[2 marks]

c) Briefly explain what is **Cliff-hanger** in a Radio Drama production?

[2 marks]

d) Generating illusions of perspective and movement begin with techniques of miking. Illustrate with simple diagram how **to balance two voices** with different loudness using only one microphone.

[2 marks]

e) List two (2) ways of creating the effect of "**Movement**" for a Radio Drama production.

[2 marks]

Continued .....

Question 5

The analogy can be made that microphones are to audio production what colors are to painting. The more colors and hues available to a painter, the greater the possibilities for coloration on a visual canvas. In recording sound the more types of microphones there are, the greater variety of tones on the sonic palette and, hence, the greater the possibilities for coloration in designing an aural landscape. There are three basic features to consider when choosing a microphone, or mic: operating principles, polar patterns, and sound response.

Based on your understanding of basic microphone's principle answer the following questions:

a) List the two (2) **types of microphones** that are commonly used in recording studio.

[2 marks]

b) Briefly explain what a microphone's **polar pattern** is.

[2 marks]

c) Draw the **directional characteristics** for the following microphone's polar pattern:
   i. Omni-directional
   ii. Cardioid
   iii. Figure-8

[6 marks]

End of Page.